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THE GENERAL BOARD

United States Forces, European Theater

MOUNTING THE OPERATION "OVERLORD"

MISSION: Prepare a Report on Mounting the Operation "OVERLORD".

The General Board was established by General Orders 128, Headquarters European Theater of Operations, US Army, dated 17 June 1945, as amended by General Orders 182, dated 7 August 1945 and General Orders 312 dated 20 November 1945, Headquarters United States Forces, European Theater, to prepare a factual analysis of the strategy, tactics, and administration employed by the United States forces in the European Theater.

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THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER
APO 408

STUDY OF MOUNTING THE OPERATION "OVERLORD"

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MOUNTING OF OPERATION OVERLORD

CHAPTER 1

DEVELOPMENT OF MOUNTING PLANS

SECTION 1

INTRODUCTION

1. At the Casablanca conference in January 1943, the Combined Chiefs of Staff directed that a plan be developed for an allied invasion of Western Europe, and a planning agency known as the Chief of Staff Supreme Allied Commander (COSSAC) was organized in London. This agency prepared a preliminary plan which was approved by the Combined Chiefs of Staff at Quebec in August, 1943. This plan, called "OVERLORD" was the basis for all further detailed plans for the OVERLORD Operation.^{1,2}

2. That part of the French Coast from Cherbourg to Nantes was chosen for the attack and southern England as the place from which the attack would come. The target date was fixed as 1 May 1944.^{1,2}

3. Mounting the OVERLORD operation required the preparation and movement of a large number of troops from the United Kingdom and the United States to the Continent of Europe, together with their necessary equipment, and preparation for the logistical support of these troops. This mass movement of men and supplies must be accomplished in such a manner as to meet the requirements of the field force commanders, subject to such changes as the tactical situation might require from time to time. Plans and procedures must be developed that would use to the maximum the limited facilities of the United Kingdom allocated to the United States Forces.

4. On 29 October 1943, The Commanding General, European Theater of Operations delegated to the Commanding General Service of Supply, European Theater of Operations, the responsibility for mounting that part of the operation to be performed by the United States Forces.³

5. The western part of Southern England and certain existing facilities, including ports for unloading supplies, were allocated to United States forces, for use in mounting troops. This area was organized for the reception of troops and supplies and additional construction completed.

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1. Combined Chiefs of Staff Final Report to the President and Prime Minister.
 2. Theater General Board Strategical Study of the European Campaign, Chapter 1, Section 1.
 3. Ltr, Hq, European Theater of Operations, "Responsibility of Mounting Operation OVERLORD, 29 October 1943.

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6. On the 20th of March 1944, Service of Supply, European Theater of Operations, plan for mounting the OVERLORD operation was published.⁴

7. On the 10th of April 1944, it was directed that Build-up Control Organization be established to control the movement of troops from the United Kingdom to the Continent.⁵

SECTION 2

PREPARATION OF MOUNTING PLANS

8. Prior to September, 1943, the Director of Movements, British War Office, had made some study of preparations necessary for the movement of a large amphibious force. In September 1943, the British exercise "HARLEQUIN" was conducted in accordance with the procedures prescribed in "Standing Instructions for Movement Control (Combined Operation - Short Sea Voyage)." Some officers and enlisted men of the United States Army participated in the exercise under command of British Control Officers.

9. The results of the "HARLEQUIN" exercise were carefully studied by representatives of the British and American Armies. The exercise proved that a distinctly different procedure should be employed for a short sea voyage from that employed for a long sea voyage. It was agreed that the movement of allied troops should follow a uniform procedure and generally that developed in the "HARLEQUIN" exercise.

10. The Service of Supply, European Theater of Operations, United States Army, plan for mounting troops for the operation OVERLORD was prepared⁶ based on the procedure developed in the HARLEQUIN exercise.

11. The plan provided for the movement of troops into the mounting area and loading them and their equipment on the ships and crafts for shipment to the far shore in the order required by the field force commander and provided sufficient flexibility to admit such changes as the tactical situation might require. In order to accomplish this as quickly as possible, troops were relieved of administrative responsibility in the mounting area by static Service of Supply personnel. Responsibility for organization and operation of the mounting area was delegated to the Base Section.⁷

12. A prearranged flow of troops was contemplated from their home stations through the mounting area to arrive at embarkation points in the sequence established by priority tables. The First United States Army prepared the priority tables for the period D to D plus 14, and 1 Army Group for the period D plus 15 to D plus 90. The Chief of Transportation, United States Army, was responsible for movement of troops and vehicles from their home stations to the concentration area. Movement of troops and their equipment from the time they left the concentration area until loaded on crafts and ships was the responsibility of the Base Section. It was planned that by 1 October 1944 troops arriving from the United States would be discharged at continental ports.⁸

4. Hq, Service of Supply, European Theater of Operations "Mounting Plan", 20 March 1944.
5. NJC/00/302 Hq, 21st Army Group, 10 April 1944, "Build-Up Control Organization."
6. Service of Supply, European Theater of Operations, "Mounting Plan" 20 March 1944.
7. Ltr, Hq, Service of Supply, European Theater of Operations, "Delegation of Responsibility for Mounting Cross-Channel Operation", 9 January 1944.
8. Hq, Forward Echelon, Com 2 "Mounting Plan".

13. Some preliminary surveys in preparation for making plans for the movement of supplies in the operation OVERLORD were made by the British office of the Director of Freight movements and the office of the Chief of Transportation, United States Army, in September, 1943.

14. The Service of Supply plan for Mounting Supplies provided that supplies and equipment were to be shipped from the United Kingdom with some supplemental shipments from the United States during the early stages. This system was to be continued until supplies in the Kingdom other than those from British sources, were reduced to the minimum necessary for troops remaining in the United Kingdom. Thereafter, supplies were to be shipped directly from the United States, except those procured in the United Kingdom and those transferred from United Kingdom reserves.^{9,10}

15. Supplies to be shipped to the Continent automatically on a prescheduled basis until the communication zones commander determined that supply could be placed upon a requisitioning basis. Requisitions within the tonnage allocations were to be submitted for supplies and equipment required by United States forces on the Continent by phases for the period D to D plus 90. The First United States Army was responsible for assembly of requirements data during phase I (D to D plus 14); Advance Section Communications Zone for phase II, (D plus 15 to D plus 41); and Forward Echelon Headquarters Communications Zone for phase III, (D plus 42 to D plus 90). The Air Force and Navy were to prepare their requirements for common items and submit to the agency responsible for the assembly of their detailed requirements. Those requirements were to be sent to Headquarters, Service of Supply, European Theater of Operations, which was responsible for receipt of requirements for all three phases and for preparation and shipment of supplies to the Continent in accordance with established schedules. Service of Supply was responsible for delivery of supplies to the Air Force on the Continent except supplies shipped by Air.¹¹ It was also responsible for supplies required by Naval units ashore.

16. Responsibility for making shipping allocations was that of the Commander-in-Chief, 21 Army Group, while in command of United States and British Forces. Afterwards, this responsibility passed to Supreme Headquarters, Allied Expeditionary Force.

17. Three supplemental or emergency methods for the shipment of supplies were planned:

a. The first was the "Red Ball Express" which provided for small shipments of urgently required, first priority items not to exceed 100 dead weight tons daily. "Red Ball" requisitions were to be processed immediately and material sent to the port. This was in addition to previously planned shipping.¹²

b. The second was the "Greenlight" shipments which provided for the shipment of an additional 600 dead weight tons of selected items of ammunition and Engineer construction materials daily. Ship-

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9. Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944.
 10. HQ, European Theater of Operations, SOP No 1, General Plan for the Administrative Support from the UK of US Forces on the Continent, 16 June 1944.
 11. HQ, European Theater of Operations, SOP No 14, Pre-Scheduled Supply Requirements, 29 April 1944.
 12. HQ, European Theater of Operations, SOP No 8, Red Ball Express, 12 May 1944.

ments under "Greenlight" were to displace an equivalent tonnage of certain Class IV Engineer supplies previously scheduled.¹³

a. Air Shipments. Three kinds of shipment by Air were provided: Pre-scheduled, Emergency, and Maintenance requirements for a "typo unit".¹⁴

18. In order to test the mounting plan under simulated combat conditions training operations or exercises were conducted. Training areas for these exercises were constructed almost identical to the beaches on the French Coast already selected for the attack. As was to be the case in the OVERLORD operation, the Commanding General, Service of Supply, was charged with mounting these operations. During these exercises it was learned that dissemination of information to lower echelons was poor, that it would be necessary to establish supply points in the Marshalling Area in order to have supplies closer to troops, that security measures were insufficient, and other faults in procedures needed correction. Steps were taken to correct each defect in the operation, but basically, the plan remained the same.¹⁵

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- 13. Hq, European Theater of Operations, SOP No. 41, Greenlight Supply, 31 May 1944.
 - 14. Hq, European Theater of Operations, SOP No. 9, Supply by Air, 9 June 1944.
 - 15. Critique Exercise DUCK, 12 January 1944.

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CHAPTER 2

OPERATION OF MOUNTING PLANS

SECTION 3

MOUNTING OF TROOPS

19. Responsibility for Mounting. The Commanding General, Service of Supply, European Theater of Operations was given the responsibility for the mounting of operation OVERLORD. This included the selection, siting and construction of marshalling and embarkation areas, the administration and operation thereof and the movement of field forces, air forces, and service of supply troops, their impediments and supplies, from home stations in the United Kingdom to the concentration areas, marshalling areas and to the ports, harbors and hards.¹⁶ Responsibility for organization and operation of the mounting area was delegated by the Commanding General, Service of Supply, to Base Section Commanders.¹⁷

20. Selection and Organization of Mounting Area. The area in the South of England was selected as the area for mounting operation OVERLORD. The area was divided into Base Sections, each with a commander responsible to the Commanding General, Service of Supply. One of these Sections, the Southern Base Section was further divided into four districts which were designated XVI, XVII, XVIII and XIX Districts. This Base Section was further divided into two zones, the Center Zone and the Southwestern Zone. These zones corresponded to Base Section Districts, the Center Zone to the XVIII District, and the Southwestern Zone to the XIX District. Zones were further subdivided into marshalling areas. These marshalling areas were subterritories each with a separate Commander responsible to the District Commander. The area further comprised concentration areas and embarkation areas. So that from the beginning of movement in mounting until troops were loaded aboard ships and craft for cross channel movement they passed successively through the following areas.¹⁸

a. Concentration Area. This was the area in which units assembled prior to the start of their journey to embarkation. They were further subdivided into concentration area camps. In some instances the concentration area was the home station of the unit.

b. Marshalling Area. The marshalling area was the area in which units were broken down into unit parties and then formed into craft or ship loads to be called forward for embarkation.

c. Embarkation Area. The embarkation area was an area, including a group of embarkation points, in which final preparations were completed and through which craft and ship loads were called forward to embark.

21. Organization of Force. The organization of the force for the invasion of the Continent consisted of an assault force, a follow-up force, a pre-loaded build-up force and a normal build-up force.

16. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944.

17. Letter, Hq, Service of Supply, Delegation of SOS Responsibilities for Mounting Cross-Channel Operations, 9 Jan 1944, File AG/381/GDP.

18. See Chart attached and marked Exhibit (1).

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The assault force was the initial flight of ships and craft carrying assault troops. A meticulous loading plan and a definite pre-allocation of craft and ships had to be made well in advance of the operation for this force. The follow-up was that part of the force which was to land immediately after the assault. A definite pre-allocation of ships and craft and a loading plan was also made well in advance of the operation for this force. The pre-loaded build-up was that part of the force other than the assault and follow-up for which shipping could be provided in advance of the operation. Two United States divisions were mounted in the pre-loaded build-up, and were mounted from the Bristol Channel employing deep sea ships and coasters. The normal build-up was that part of the force which had to depend on returning ships and craft. The mounting of these units was a race against time affected by enemy action, casualties in craft, weather and many other contingencies. Assault, follow-up and build-up were mounted as follows:

a. Mounting of Assault and Follow-up. The assault and follow-up forces were assembled in or adjacent to their marshalling areas well in advance of the operation. Here these units were broken down into unit parties and formed into ship and craft loads. All administrative personnel and overstrength were detached from the units and formed into organizations known as "Residues". Those Residues were self-sustaining and were concentrated in a selected location under the direction of the Base Section Commander and were to be called forward for embarkation in the normal build-up. Where the Residues of small units were incapable of self support Base Section Commanders cared for them until they were called forward. Craft and ship loads were not self sustaining and all housekeeping requirements were taken care of by Base Section. This process of dividing small units into unit parties and then forming them into ship and craft loads was known as Marshalling. Prior to movement to embarkation area vehicles to be embarked had to be waterproofed and, although this was a unit responsibility, Base Section provided the make-up waterproofing material and ordnance technical advice for the waterproofing crews.¹⁹ Prior to embarkation all unserviceable clothing, equipment, and supplies were taken in by the services and replacements issued. Replacements were also issued for all damaged equipment or that consumed in training activities. Base Section moved craft and ship loads to the ports, harbors and hards and loaded them aboard the craft or ships for trans-channel shipment prior to D-day.

b. Mounting of Build-up. It was not possible to assemble all the build-up in concentration areas and consequently some had to be assembled farther to the north. These units were assembled in areas which were known as home stations. The home station of some units, particularly those units which had been assembled in areas sufficiently near their ports of embarkation, was also their concentration area. While at home stations units were to receive all supplies and equipment to accompany them unless otherwise specified. The mounting of units in the build-up was a series of movements from the home station to the ports, harbors or hards and loading aboard ships and craft for the cross-channel movement.

22. Mounting Procedure*. The principal phases of mounting the operation were:

a. Movement from home station in the United Kingdom to the concentration area.

19. For waterproofing procedure see Annex K to European Theater of Operations, United States Army, Preparation for Overseas Movement, Short Sea Voyage, Short Title, ETO-POM-SSV, dated 10 January 1944.

* Also see Study No 22, "Control of Build-Up of Troops."

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- b. Movement from the concentration area to the marshalling area.
- c. Movement from the marshalling area to the embarkation area, and embarkation from the ports, harbors and hards.
- d. Evacuation of personnel and materiel returned from the far shore in returning ships, crafts and planes.
23. Movement from Home Station to Concentration Area. The movement from home station to concentration area was under normal arrangements for moves in the United Kingdom. Units were moved by the Transportation Corps in accordance with the concentration plan prepared by the Commanding General, First United States Army for the assault and follow-up and by the Commanding General, Service of Supply, European Theater of Operations 20 for the build-up. Units moved from home stations to concentration areas as complete units, and were placed in specified concentration area camps. While in the concentration area equipment and supplies which had been lost, damaged or consumed in transit were replaced by Base Sections. Here units in the early build-up shed their residues, initiated waterproofing of vehicles and packed equipment for cross-channel shipment. Marching parties and vehicle parties were formed to be embarked in different ships and craft and at different times so as to arrive on the continent at approximately the same time.
24. Movement from Concentration Area to Marshalling Area. Base Section Commanders were responsible for movement from the concentration to marshalling areas and upon receipt of movement instructions unit commanders were required to contact immediately local regional transportation officers to coordinate details of movements. While in the marshalling area accommodations were provided by Base Sections for all personnel, hard standings for vehicles and all general housekeeping facilities to include issue of emergency supplies, gasoline, oil and lubricants and replacement of lost or damaged supplies or those consumed in route. Units were to leave the marshalling area completely equipped for the accomplishment of their mission.
25. Movement from Marshalling Area to Embarkation Point. Where necessary, Base Section provided transportation for movement of units from marshalling area. Normally troops were not to march in excess of five miles. Units were guided to embarkation regulation points or to embarkation points. In the embarkation areas all half track and full track vehicle tanks were completely filled. Medical aid stations were established for taking care of casualties and last minute issue of certain needed supplies were made as well as providing some refreshments to the troops. Base Section loaded the units aboard the craft or ships, providing all personnel for this purpose.
26. Evacuation. Landing-ships Tank were used for evacuation from the far shore. Special litter brackets were built in the sides so that one hundred forty casualties could be accommodated and additional casualties were placed on the tank deck. As these boats arrived at hards on their return the casualties were disembarked and sorted. Those whose condition permitted were loaded into motor vehicles and transported to Transit Hospitals. More serious cases were conveyed to adjacent holding units. Those hospital units right at the port
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20. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 6.

were set up to give immediate service. In them patients in shock were sustained, X-Rays were taken and operations performed. As soon as possible wounded were evacuated from here to Transit Hospitals and were held there until they were able to be transported by hospital train to General Hospitals. Schedules of hospital trains, the number of patients, and the distribution of casualties were controlled by the bed status reports which were telephoned every six hours. These reports give the number of patients, the number of empty beds and the train schedules. Plans were made to evacuate by air but there was no guarantee of this method of evacuation since the Medical Corps had no airplanes assigned to it. By agreement with the Air Forces however, specially converted cargo planes were made available for evacuation of wounded and air evacuation commenced on D + 3. Specially outfitted C-47 ambulance planes began evacuating casualties on D + 4. A large percentage of casualties were evacuated by air. The Commanding General, Service of Supply, European Theater of Operations, was responsible for the receipt, treatment, and evacuation of all United States casualties received in the United Kingdom. Holding points were established in the immediate vicinity of the ports, hards, and air-fields for the emergency treatment of casualties evacuated from the Continent. Certain Station and General Hospitals were designated as Transit Hospitals. Here casualties were received initially and prepared for evacuation to designated Station or General Hospitals for definite treatment. Those not capable of returning to duty in 180 days were returned to the United States. Transportation from ports or hards to transit hospitals was by motor transportation, and from Transit Hospitals to Station or General Hospitals by hospital trains. The Base Sections were responsible for unloading and transportation of casualties to Transit Hospitals. Movement of casualties from the continent was by returning ships and crafts and by air transport. Prisoner of War casualties were treated in the same manner as other casualties.²¹

27. Preparations Required for Mounting. Before mounting procedure could be commenced, vast preparations were required for the processing of the many thousands of units that were to be employed in the largest of all amphibious operations in history. The area selected for the mounting did not provide the facilities which would be required. The first problem which confronted the planners was the organization of the area for the supervision and control of the units that would be employed in the operation. As stated before, this was done by the organization of Base Sections and the further subdivision of Base Sections into Districts, Concentration, Marshalling and Embarkation areas. The problem then confronted the planners in quartering, feeding and transporting the units. Existing roads had to be repaired and new roads laid out and constructed. Communication facilities had to be installed for rapid inter-communication between all headquarters. Aid stations and hospitals for the care of the sick and wounded and recreational facilities for units while in the areas had to be provided. Hard standing for thousands of vehicles were required. Docks and dumps for the storage and issue of vast quantities of equipment and supplies had to be installed. Many other facilities such as provision for payment of troops, waterproofing test pits; shoe repair and renovation of clothing and equipment had to be arranged in advance of the arrival of units in the area for mounting. There were a total of six marshalling areas organized along the Southern Coast of England completely operated by United States Army personnel, and two areas jointly operated by British and United States Army personnel. These areas comprised 77 camps with a total capacity of task forces of

21. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 8.

approximately 125,000 troops and 24,000 vehicles. In addition, there was one area, operated entirely by British personnel with a capacity of 29,000 personnel and 4,500 vehicles.^{22,23} In all, accommodations were provided in these areas for approximately 190,000 task force personnel and 16,500 vehicles. Since dispersion was necessary for protection against enemy air raids, the marshalling area camps were further broken down into smaller areas of approximately 200 men camps. In order that the mounting would be done efficiently and smoothly, it was necessary to assemble and train personnel to man all the various installations, to assemble and train Static Staffs for their command and administration. It was estimated that Service of Supply personnel needed for mounting the operation, in addition to that required for normal Service of Supply functions would be approximately 61,000.²⁴ 10,000 of these were furnished by field forces: the 5th Armored Division, the 29th Infantry Regiment, and the 6th Tank Destroyer Group.²⁵ For the transportation of personnel, equipment, and supplies, the plan provided that all organizational transportation over and above that required by the unit would be used and arrangements were made for the use of 1,000 civilian contract vehicles. In addition, it was estimated that 77 truck companies would be required.²⁶ In addition to mounting of ground units, preparations had to be made for the mounting of airborne units. The plan provided that two airborne divisions would be used in the operation and this in itself presented a problem considerably different from that of mounting ground units. Air fields had to be prepared for the assembly, loading and launching of planes and gliders. All these preparations were to be completed and static troops assembled in headquarters and camps by Y-45 in order to train and be prepared for the reception of task force units which were to be assembled by Y-21, for the purpose of participating in exercises in mounting procedure. Plans called for the loading of 90,000 troops on D-day and for a continuing build-up of 18,000 to 20,000 troops per day for the first several days. By the time D-day arrived, the build-up in the United Kingdom had reached approximately 1,500,000 troops. From the above, it can readily be seen that preparations for such an undertaking was a task which would tax the minds and energies of all concerned; that preparations for the reception, housing, feeding, transporting and administering such vast numbers of personnel and the receipt, transport and storage of required quantities of equipment and supplies called for most careful and thoughtful prior planning.

28. Obstacles Encountered. The plan for operation OVERLORD provided that the assault and follow-up units would be assembled in marshalling areas adjacent to their ports of embarkation well in advance of D-day. Here these units would be broken down into unit parties and formed into craft and ship loads. The administrative personnel and overstrength would be formed into organizations capable of being self-sustaining and moved to areas from which they would later be moved for embarkation in the normal build-up. The craft and ship loads

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22. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 2.
 23. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 3.
 24. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944.
 25. Informal Routing Slip Service Troop Branch to Executive Officer, Assistant Chief of Staff G-4, Subject: European Theater of Operations Service Troop Build-up for Operation OVERLORD, 3 July 1944.
 26. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 6.

having shed their administrative personnel were no longer self sustaining and were to be administered and fed by static personnel assembled and trained in advance for this purpose.²⁷ Unit parties would load supplies and equipment actually required for combat on vehicles to be landed with them. All supplies which could not be loaded on these vehicles were to be turned over to Residues and shipped at a later date with these Residues. Units in the build-up would likewise take with them only the equipment and supplies which could be loaded on vehicles. The remainder would be packed, marked and shipped by the unit so as to arrive on the far shore at approximately the same time as the unit.²⁸ This equipment was to be shipped in accordance with the priority of the unit as shown on the priority table. Since this table was subject to change and was frequently changed, it was difficult, if not impossible to know the date on which units would be embarked and consequently it could not be determined in advance at what time the equipment should be loaded for shipment. It was unwise to ship this equipment too far in advance of the unit because of the danger of its becoming lost. This resulted in some units attempting to ship all equipment with the unit and some arriving at marshalling areas with equipment in excess of that which could be accommodated on unit vehicles. This excess equipment had to be shipped to the proper cargo port for loading on cargo vessels and thus the delivery of the equipment to the unit on the far shore was delayed. Other units turned their equipment in to depots where in some instances through error it was returned to stock for reissue; while still others neglected to ship their equipment to marshalling areas in advance as required. The changes in the build-up priority tables presented problems in the question of supply of units and in the placing of units in the marshalling areas. Once a unit vacated a concentration area camp another unit was immediately moved in to take its place. Therefore there could be no movement backward from the marshalling area. If a unit was phased back after arrival in the marshalling area it had to remain there until it was called forward for embarkation. Some units were phased forward as much as three weeks. As a result, and due to limited quantities of equipment available for issue, some of these units arrived in the marshalling area short of required equipment. The equipment had been issued to units in accordance with the priority table and when a change occurred time would not permit its withdrawal from one unit and reissue to another. In the early stages of the build-up some unit commanders endeavored to retain possession of all their personnel and vehicles regardless of plans which contemplated movement in three echelons, that is, the number of men and vehicles required to perform the primary mission in the first echelon, the overstrength as the second echelon and the housekeeping personnel as the third echelon. This caused confusion since these overstrength and Residues were to be shed prior to arrival in the marshalling area and were scheduled to be embarked at a pre-determined time. The arrival of these Residues and overstrength in the marshalling area caused undue congestion there. The shipment of this overstrength of personnel and vehicles would, of course, use ships and craft intended for other units in the build-up and would retard the accomplishment of the over-all build-up plan. Some of the units arrived in the marshalling area under T/O + E strength and days later than scheduled on the Force Movement Tables. This, of course, caused confusion since these units could not be embarked until they were properly equipped and were properly organized to accomplish their mission. The Force Movement Table was based on the Priority

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27. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944.
28. Hq, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 6.

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Table and when these units did not arrive at the time specified it meant that other units had to be phased ahead.²⁹ In some instances Force Loading Forecasts called forward units as much as ten to twelve days ahead of their planned dates to be called and some of these units had not yet arrived in the United Kingdom.³⁰ There were occasions when marching parties were embarked while their vehicle parties remained in the marshalling areas as much as five to seven days thus placing the marching parties on the far shore without personnel and equipment to sustain themselves.³¹ The release of combat units from housekeeping responsibilities necessitated the assembling of casual detachments for the performance of these duties which included the administration of casualties who had assembled in the areas.³² This was the case with the 5th Armored Division which was released from housekeeping responsibilities on D + 5. Sufficient Service of Supply troops were not assembled in the concentration and marshalling areas to be properly trained for the performance of the duties that were to be placed upon them, some units arriving late in April and May, 1944. In the latter stages of the build-up troops were shipped from the United States to United Kingdom ports for transhipment to the continent. On days when these transhipped troops were arriving at the United Kingdom ports it was practically impossible to ship any considerable number of troops from the marshalling areas due to lack of available shipping. It frequently happened that the equipment of these transhipped troops arrived on several ships of a convoy and/or ships of different convoys. This caused considerable difficulty and delay in assembling the equipment of a unit so as to tranship it and have it ready on the far shore at the time required by the units.

29. Postponement or Delay in Mounting. Y-day was set as June 1, 1944. A plan was developed for action to be taken in the event of postponement or delay of the operation. This plan provided that in the event of a day to day postponement troops would remain on landing-ships Infantry, landing-ships Assault and landing-ships tanks. Troops aboard landing-ships tank or landing-ships infantry lying alongside quays could be disembarked into adjacent accommodations but those not in landing-ships infantry nor alongside quays would remain aboard. All personnel would reembark daily and sleep on board ship. In the event of a postponement as long as fourteen to twenty-eight days all personnel except vehicle maintenance parties would disembark and return to marshalling areas to be reformed. In case of a postponement for a considerable period of time troops in the early build-up would remain in home stations.³³ Intense air coverage was provided for the eventuality of a hostile air raid on the operation. In the event of a retrograde movement troops were to be disembarked and if the distance to be moved from the embarkation points was not greater than three miles troops would march. If the distances to move were greater than three miles troops would be loaded on vehicles and moved. Fortunately no enemy action sufficient to cause postponement or retrograde movement developed.

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29. 1st Indorsement to letter Headquarters Southern Base Section, Communications Zone, Subject: Report of Discrepancies in Movement of Air Force Units through Marshalling and Embarkation areas, dated 19 July 1944.
30. Informal Routing Slip, Headquarters Southern Base Section, Sub: T/E Equipment and Operational Supplies for Operational Units, dated 8 July 1944.
31. Memo, Ninth Air Force Section, BUOC WEST to MOVCO, BUOC WEST, dated 7 July 1944 with 1st and 2nd Indorsements.
32. Historical Report G-1 Section, Operation OVERLORD, Advance Section Headquarters, XIX District, dated 19 June 1944.
33. HQ, Service of Supply, European Theater of Operations, "Mounting Plan", 20 March 1944, Annex Number 16.

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30. Discussion. The plan for mounting the operation OVERLORD was developed after considerable discussion and various committee meetings. The procedure prescribed for mounting of units was arrived at as a result of experience gained in the exercises conducted by the British at which representatives of the United States Army were present as observers for the purpose of studying those exercises and recommending such modifications as were considered necessary and desirable. The Service of Supply plan as finally adopted was published on 20 March 1944, and Base Section plans followed soon thereafter. Based on these plans, marshalling areas, subareas, districts and camps published their plans which gave detailed mounting procedure. Available Service of Supply units were assembled and headquarters and staffs formed for the execution of the plan. Exercises were planned and conducted to test the various agencies in their respective parts to be played in the operation and to correct such deficiencies as these exercises disclosed. Unfortunately, however, sufficient Service of Supply personnel to man all installations were not or could not be assembled in advance to take part in these exercises and to be properly trained in the part they were to play in the operation. The plan provided that units would arrive in the marshalling areas completely equipped, except for minor quantities lost, damaged or consumed, and with all the personnel and vehicles required for the operation. Only limited quantities of supplies were to be stored in these areas for replacement of those lost, damaged or consumed items of equipment and not for the complete supply of an organization. Regulations defining specific responsibilities and conduct of task force commanders as well as that of static commanders were promulgated; such for example, the breaking down of units into craft and ship loads, the waterproofing of vehicles, the movement of marching parties and vehicle parties separately, the assignment of units to specific camps and areas and specific routes to be followed in movement from one area to another. Definite responsibilities were laid out for both transient and static personnel. Units were to be called forward in accordance with established priorities and embarked in that order. Those responsibilities had to be fixed and definite, and variation therefrom without specific authority was a source of confusion. In spite of these plans and regulations units arrived in these areas lacking considerable amounts of equipment and supplies, short in T/O & E equipment, and either over or under on vehicles. Unit commanders in some instances insisted on loading all vehicles and all personnel and equipment and objected to having their units split up for embarkation. Changes in priority tables were made calling forward units which had not arrived in the United Kingdom, or who were not properly prepared to perform their mission either because of lack of equipment and supplies.

SECTION 4

MOUNTING OF SUPPLIES

31. General. Supply movement ability from the United Kingdom to the continent was determined and shipping allocations were made by the Commander-in-Chief, 21 Army Group, while in charge of United States and British forces. This function passed to Supreme Headquarters Allied Expeditionary Forces upon the release of United States forces from 21 Army Group. Prior to D-day, the planned tonnage discharge capacities had been determined for each of the continental discharge points. Daily allocations of tonnage were made to the requisitioning headquarters. Daily requisitions for predetermined requirements for supplies were prepared for the period D-day to D plus 90.³⁴ Cargo was

³⁴. Standing Operating Procedure Number 4, Hq, European Theater of Operations, Subject: Prescheduled Supply Requirements for Continental Operations, dated 29 April 1944.

to be prepared for shipment and loaded so that prescheduled supplies would be available on ships at continental discharge points on the day the requisitions called for them. Special requisitions were to initiate the movement of other supplies. The supplies were to be shipped from the United Kingdom and the United States.³⁵ Initially all supplies were to come from the United Kingdom. Those from the United States were to be phased in when handling facilities on the continent were capable of unloading the larger ships and as their cargoes would fit into the requirement for supplies. The supply requirements were determined, requisitions were processed, supplies were packed and marked, documented, and moved from the many supply depots in the United Kingdom to air fields from which they were shipped by plane or to ports, where they were loaded aboard vessels and moved to the continental discharge points.

32. Predetermined Requirements. The plan of the Forward Echelon, Headquarters Communications Zone³⁶ provided that requisitions would be prepared prior to D-day for the supplies that would be required in the continental operation from D-day to D plus 90. The planned daily tonnage lift that would be available to each continental offloading point was allocated to the several headquarters that were responsible for the preparation of requisitions. Each headquarters prepared requisitions within the tonnage allocations for the supplies to be delivered each day to each continental offloading point. The requisitions contained the quantities of items necessary for daily maintenance and the build-up of balanced reserves. Headquarters, First United States Army assembled the data pertaining to requirements during Phase I, D-day to D plus 14. This included phased tonnage allocations and priorities, and phased strength for all United States forces and agencies which had landed on the continent. Headquarters, Advance Section, Communications Zone, assembled the data for Phase II, D plus 15 to D plus 41. This data included tonnage allocations of First United States Army Group and the phased strength of all United States forces on the continent. Forward Echelon, Headquarters, Communications Zone, compiled the requirements for Phase III, D plus 42 to D plus 90. This included tonnage allocations for First United States Army Group and the phased strength for all United States forces and agencies. The assembled requisitions informed the headquarters of what supplies would be received during that period of responsibility. The assembled requisitions were sent to Headquarters, Services of Supply, European Theater of Operations, which was the responsible agency for the receipt of requisitions for all three phases and for the preparation and shipment of supplies to the continent in accordance with established schedules. Ninth Air Force and United States Navy requisitions for common items were prepared and submitted to the agency charged with the consolidation of requirements. Items peculiar to the United States Navy and Air Forces were handled separately.

33. Special Requisitions. Special requisitions³⁷ from the con-

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- 35. Standing Operating Procedure Number 1, Hq, European Theater of Operations, Subject: General Plan for the Administrative Support from the United Kingdom of United States Forces on the continent dated 16 June 1944.
 - 36. Plan for Operation OVERLORD, 1944, Forward Echelon, Headquarters Communications Zone.
 - 37. Standing Operating Procedure Number 6, Headquarters, European Theater of Operations, Subject: Continental-United Kingdom Requisitioning Procedure, dated 18 May 1944.

tinent covered supplies which were not compiled within the category of prescheduled supply shipments and included shipment by normal special requisition, Red Ball Express, or Air Force supply. The length of time necessary to deliver these supplies to the continent was contingent upon the availability of transportation to the United Kingdom port, shipping space, the tonnage involved and the type of ship necessary to carry the cargo. Red Ball and air shipments were moved from depots to ports or air fields by the most expeditious means of transportation available.

34. Requisitions for Normal Shipment. Supplies on normal special requisitions displaced those set up on prescheduled shipments, and were included in the approved tonnage allocations. When these shipments involved a large tonnage and could not be absorbed by displaced prescheduled tonnage, special transportation was arranged for if possible.

35. Red Ball Express Shipment. Red Ball Express,³⁸ which was scheduled to come into operation by D plus 3, was the quickest means for the delivery of supplies by coaster. The amount of tonnage was limited to 100 long tons a day and was in addition to prescheduled supply shipments. All United Kingdom shipping procedures were geared so that Red Ball shipments would be expedited. Depots accorded these shipments priority in packing, marking and documentation. Movement from depots to United Kingdom ports was ordinarily made by motor vehicle. Ports gave them priority in handling and loading. The Chief of Transportation procured from the United Kingdom port commanders full information on the shipment and forwarded it to the far shore port commander and the requisitioning agency.

36. Air Shipments.^{39,40} Scheduled supply by Air shipments transported predetermined quantities of supplies on a schedule. Emergency Supply by Air provided for the delivery of emergency requirements by air. Bids for tonnage were made to the Combined Air Transport Operations Room. When bids were in excess of available air transport, the matter was sent to Supreme Headquarters, Allied Expeditionary Force, Air Priorities Board, for final determination. Data for emergency supply by air was furnished three days in advance of desired date of delivery. Also, supplies for air transport, which were pre-stocked at designated United Kingdom Air Fields, included three days of supply for one Regimental Combat Team, Two Ranger Battalions, One Tank Destroyer Battalion, One Tank Battalion, Medium, and One Infantry Battalion. If a unit was cut off from its command and it was impossible to ascertain its requirements, the maintenance requirements for the type were dispatched by reporting the Table of Organization and Equipment designations of the unit.

37. Greenlight Supply.⁴¹ Greenlight supply provided for substitution of 600 long tons of supplies of ammunition and engineer fortification materials in lieu of certain Engineer Class IV supplies previously scheduled for shipment. The substitute ammunition and

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- 38. Standing Operating Procedure Number 8, Headquarters, European Theater of Operations, Subject: Red Ball Express (Revised) dated 7 June 1944.
 - 39. Standing Operating Procedure Number 9, Hq, European Theater of Operations, Subject: Supply by Air, dated 9 June 1944.
 - 40. The General Board, United States Forces, European Theater, Study "Air Supply and Evacuation".
 - 41. Standing Operating Procedure Number 41, Hq, European Theater of Operations, Subject: Greenlight Supply, dated 21 May 1944.

engineer materials were shipped to a predesignated depot and held in predetermined pockets for shipment as required. This procedure provided a degree of flexibility to the extent that, depending upon the tactical situation, either the additional ammunition or the predetermined packets of Engineer supplies could be shipped on demand. Requirements for supplies to be shipped on Greenlight were placed with Headquarters European Theater of Operations six days prior to the date required on the continent. Priority was given to handling of these shipments at the depot, movement to port, and dispatch to the continent. The procedure was to be effective during the period D plus 14 through D plus 41 but was extended to D plus 47 on the request of the First United States Army.

38. Organization Equipment. The organization equipment that could not be taken on vehicles accompanying the unit was shipped separately, as early as practical in the operation. It was to arrive on the continent one day prior to the arrival of the unit.⁴² This procedure was to provide the unit with complete equipment upon arrival on the continent.

39. Packaging of Supplies. During the initial stages of the invasion, all packages landed across the beaches were limited to 120 pounds gross weight except for those items where the weight of a single unit was in excess of 120 pounds. Large individual items were packed so that they could be handled by more than one person. All packages unloaded at the beaches were normally packed to withstand rough treatment under unfavorable operational conditions as well as the effects of weather and waves. Since normal packing protected supplies from temporary immersion and open storage for a period of ninety days, waterproof packing was not used unless essential. In addition to the above packaging, the requisitioning agency could have supplies skid-loaded by making notations on the requisition. The skidloading project was to package supplies in a unit that would be one load for a standard vehicle and that could be skidded on the ground. Arrangements were not made for this type of packaging in sufficient time to provide all handling agencies with handling equipment. It was not thoroughly tested and approved by all concerned so was not used extensively.

40. Marking of Shipments.⁴³ Packages were marked so that there would be ready and complete identification and information for all persons handling them.

41. Documentation.^{43,44} Prior to the invasion, procedures were designed to cover every phase connected with the shipment and movement of supplies. Some parts were not closely followed and some failed to produce the results desired. It required only hours and not days for vessels to go from the United Kingdom to the Continent. This element of time dictated the rapidity with which information on shipments must be handled to be in the hands of receiving agencies in sufficient time for them to take the necessary action to load the vessels.

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42. Standing Operating Procedure Number 3, Part One, Procedure for Overseas Movement, Short Sea Voyage, and Part Two, Procedure for Overseas Movement, Long Sea Voyage, Hq European Theater of Operations.
43. Standing Operating Procedure Number 3, Part 3, Hq, European Theater of Operations, Subject: Preparation, Documentation and Marking Supplies for Overseas Shipment.
44. Theater General Board, European Theater of Operations, Study Number 185, Standard Forms required for Movement and Control of Supplies and Personnel.

42. Communications.⁴⁵ Communications were established as rapidly as they could be between the United Kingdom and the continent,⁴⁶ as well as between the headquarters and installations on the Continent. The smooth operation of the supply system depended to a great extent upon the development of communications and flow of information.

43. Supply Movement Instructions.⁴⁷ Cargo arrival on the continent was planned in four phases. Movement instructions were issued by Headquarters, Services of Supply, European Theater of Operations on 6 May 1944.

a. First Phase.

- (1) Cargo to arrive on the continent on D-day through D plus 8 would be loaded on Y minus 21 through Y minus 8.
- (2) Shipments were to be made in MT (Liberty) ships, coaster, landing-craft tank, land craft vehicle and barges. Twenty barges were to be beached, and thereafter were not included in movement capacities. During this period all arrivals were to be pre-stowed and tactically loaded as required by the First United States Army. Coasters available were of sizes 200 to 2,000 tons. The Coaster Fleet had a theoretical daily capacity of 17,000 long tons, which would be decreased by enemy action, normal marine hazards, and the delays in loading and discharge bound to occur. All vessels were to be loaded with mixed cargo but every effort was to be made to keep the detailed composition of the cargo for each vessel as simple as possible so as to insure immediate accessibility of any major item and to simplify distribution by the Far Shore Brigades.

b. Second Phase.

- (1) Cargo to arrive on the continent D plus 9 through D plus 21 was to be loaded on Y minus 7 through D plus 11.
- (2) Shipments were to be made in coasters, MT (Liberty) ships and commodity loaded liberty ships, with coasters still the major carriers. In this and later periods complete prestowage in vessels loaded in the United Kingdom was impossible because of their widely varying size. Such stowage in this and later periods was the responsibility of the United Kingdom port commander. Tonnages were consigned to the loading port and the stowage plan for each type vessel was developed there.

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45. Standing Operating Procedure Number 23, Hq, European Theater of Operations, Subject: Signal Communications for Administrative Support from the United Kingdom of United States Forces on the Continent.
 46. Theater General Board, European Theater of Operations, Study Number 111, Signal Corps Operations.
 47. Operation "OVERLORD", Supply Movement (US) Instructions, Hq, Services of Supply, European Theater of Operations, dated 6 May 1944.

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c. Third Phase.

- (1) Cargo to arrive on the continent on D plus 22 through D plus 41 was to be loaded on D plus 12 through D plus 31.
- (2) Shipments were to be made by prestowed and commodity loaded liberty ships from the United States and by Coaster and liberty ships from the United Kingdom. In this period ocean-going vessels from both the United States and United Kingdom were used in increasing numbers. It was planned to commodity-load all small craft leaving the United Kingdom.

d. Fourth Phase.

- (1) Cargo to arrive on the continent on D plus 42 through D plus 90 was to be loaded on D plus 32 through D plus 80.
- (2) Ocean-going ships, largely from the United States, now were to bear the main burden supplemented by a reduced coaster fleet from the United Kingdom.

44. Shipments. Each service had more than one depot in the United Kingdom.⁴⁸ Often a shipment of supplies of a class and service was partially made from two or more depots. The depots were not located in proximity to each other so it was not feasible to assemble a complete shipment of supplies of a class and service from two or more depots before it left the depot area. Prescheduled requisitions were prepared for daily requirements of supplies and therefore the shipments consisted of a comparatively few each of a large number of items. Shipments called for on special requisitions often demanded special handling. Shipments varied from less than railroad car lots to more than two train loads. The materials that were prepared for separate shipment by the organizations and units that were being mounted caused some difficulty in that commanders did not always follow the issued instructions. The greatest difficulty in the separate shipment of organizational equipment occurred when the shipping priority of the unit was changed so that its shipping date did not coincide with the shipment of equipment.

45. Preparation of Shipments at United Kingdom Depots. The handling of shipments on the pre-stowed vessels required preparation of a large number of comparatively small shipments which was accomplished without undue difficulty. The daily tonnage shipped from each depot was less in the initial phase when the requirements for a day were outloaded in perhaps two days than in the later phases when average daily requirements were outloaded each day. The prescheduled requirements were prepared on a daily basis. Therefore shipments consisted of supplies that were actually required each day to meet maintenance and build-up of reserves. The number of each item to meet the daily requirement was carefully calculated and often amounted to a very few items. Daily outshipment from a depot required the preparation for and shipment of some of practically every item in the depot. The preparation of a daily shipment of a few of every item in the depot places a heavier burden on the depot than the shipment of a larger

48. Theater General Board, European Theater of Operations, Study, Logistical Build-up in the British Isles for the Invasion of France, dated December, 1916.

number of each item every few days. The priority assigned to Red Ball Express, Greenlight, and air shipments required that depots interrupt their preparation of normal shipments and make the priority shipment. Depots were not sufficiently flexible to continue preparation of normal shipments without interference and prepare the priority shipments at the same time. Interference was usually insignificant with small priority shipments but was often significant with large shipments. During the progress of the operation the shipments were moved at a slower rate than orders for shipment were received by the depots. This committed stocks to shipment and made them not available for issue.

46. Movement for Shipments to Ports. The Office of the Chief of Transportation directed the movement of shipments to United Kingdom ports in accordance with the requirements for delivery of supplies as they appeared on requisitions and the ability to handle outshipments from the United Kingdom. The number of railroad cars in the United Kingdom was limited. Movement schedules were carefully prepared in order that the rail equipment could be placed where required to meet the schedule. The movements schedule actually called for more movement than accomplished. A change in the movements schedule, occasioned by priority movements and by change of items within tonnage allocations which required shipment from a depot other than that initially designated to ship, required maintenance of maximum flexibility in the movements system. Many priority movements were made by motor vehicle which resulted in a quick move and no dislocation to the rail movements. Rail flexibility was principally restricted by holding loads on railroad cars which made them not available as empties.

47. Handling of Shipments at Ports. During the initial phase the ports pre-stowed the vessels in accordance with the stowage plans prepared by the Office of the Chief of Transportation. Following this, it was the responsibility of the port commander to pre-stow. To comply with the plan of loading vessels in such a manner that the supplies would be unloaded onto the continent in the order in which the pre-scheduled requisitions called for them, the vessels had to be loaded so that the supplies received first at the port would be loaded last on the vessel. This meant the holding on railroad cars the cargo to go aboard a vessel until the cargo to be unloaded the last day from the boat had arrived at the port. Also, partial shipments were received from two or more depots. These shipments must be assembled and loaded aboard the same vessel. Therefore, those partial shipments first received at the port were held until all were received. When this was not done partial shipments often were lost. Some complete shipments were never assembled on the continent and in certain instances the partial shipments were of no value and all effort spent on the shipment was wasted. There was very little storage room or railroad car holding capacity at the ports. The movements schedule phased supplies into ports at a faster rate than the ports had vessels upon which to load them. It was necessary at times to load vessels with the supplies which were on the railroad cars than at the port. The priority shipments called for on special requisitions, Red Ball Express and Greenlight moved into the port on their priority and were loaded out with no difficulty other than occasionally they might displace a part of a shipment.

48. Movement of Supplies Across the English Channel.⁴⁹ During the initial period the supply vessels, pre-stowed prior to D-day, were

49. Theater General Board, European Theater of Operations, Study, Supply and Maintenance on the European Continent as conducted by the Communications Zone, European Theater of Operations, dated December 1945.

moved across the channel and performed the mission they were designed to accomplish. The loss of vessels by enemy action was less than anticipated. Vessels did not return as anticipated because they were being selectively, only partially discharged. This was corrected at an early date. The vessels as they were discharged returned for new loads and were promptly loaded. Due to the many conditions and circumstances of weather, lack of understanding of various persons and organizations of the requirement for rapid movement and turn-around of vessels, and the conditions on the continent, the vessels did not move in accordance with a time table that would make their cargoes available to the continental discharge points on the appointed day. The cargo discharge points on the continent were not brought into operation as planned. The Port of Cherbourg was planned to receive cargo much prior to the time that it actually did.⁴⁹ Anticipated cargo discharge tonnages exceeded that actually accomplished. The supply requirements were not exactly as established by pre-scheduled requirements. Supplies were discharged to meet requirements as closely as possible by bringing in those vessels for discharge which contained the desired supplies. A number of ammunition ships, some loaded in the United States, were unloaded to obtain comparatively small quantities of, particularly, mortar ammunition. A number of United States ships were available for unloading and some were placed in continental waters for selection soon after D plus 10. A number of them were discharged prior to the dates planned. A number of United Kingdom loaded vessels were in continental waters awaiting call in for discharge. The actual turn-around time of vessels from the United Kingdom was much greater than had been planned. Movements by Air across the channel provided substantial quantities of urgently needed items. Documentation and communication systems did not accomplish as much as was desired.

49. The Records of Supplies in Depots on the Continent were not uniformly good. A proper statement of requirements, based upon the quantities of items required to balance stocks on the continent, could not, and was not made by headquarters on the continent. The adjustment of prescheduled requirements, based upon consumption and actual requirements, was not made. Therefore, in place of maintaining a balance in all items and anticipating excess requirements and providing for the receipt of supplies on the Continent to meet demands, urgently needed supplies were found on and unloaded from ships or were ordered on Red Ball, Greenlight, or Air Shipment.

50. Discussion.

a. The mounting of supplies for operation OVERLORD comprised determining the supplies to be mounted, and initially, moving the selected supplies from United Kingdom depots by rail, water and air to the continent. Later, supplies loaded in the United States were phased into the continent to supplement the supplies shipped from the United Kingdom. Each part of this operation, planning, the establishment of operating procedures, the determination of requirements, determination of whether United States or United Kingdom shipment would fulfill requirements, the packing and marking of supplies, documentation, shipment from United Kingdom depot, movement by rail, truck or air, receipt of shipment at port and loading onto boat, movement by boat and discharge onto the continent, communications and transmission of information, was a problem within itself which had to be determined and worked out and all integrated into one whole. The specific problem was placing the item, in the quantity required at the desired time and at the selected discharge point, on the continent. The items were in stock in United Kingdom depots or in the supply pipe line from the United States. It required too great a time from the initiation

of shipment until receipt, in Europe, of United States supplies, for that source to respond to changing operational demands. The shipment of supplies from the United Kingdom had to maintain the initial operation and maintain the balance of supplies on the continent thereafter until stocks on the continent were in sufficient quantity that they could be maintained through the longer line of communications from the United States. It was not known at which point or in what operation the limiting capability for delivery of supply would develop. The plans provided for a well balanced supply system within the limitations imposed by necessity to move large numbers of combat forces with resultant fewer service forces and a slow build-up of reserve supplies. The plans provided for the movement of emergency and pre-determined requirements for supplies at a rate that facilities were planned to be capable of handling them. Predetermined requirements, as stated in minute detail in daily requisitions, were based upon the planned operation. The provision for moving supplies, other than predetermined requirements, added the required flexibility to the system to meet the actual operational demands.

b. The prescheduled requisitions for the period D-day to D plus 90 were made on a daily basis in order to deliver at continental discharge points each day the supplies necessary to furnish daily maintenance and the items to produce a balanced build-up of reserves. Such a procedure required preparation of daily shipments in United Kingdom depots of a few of practically every item in stock for each of the continental discharge points. This consumed more effort on the part of a depot than would the preparation of shipments containing two, three, or more times the number of each item with a proportionate reduction in the number of shipments containing each item. The handling of these shipments at the port and the stowage to permit discharge in order of daily requirements presented numerous problems of assembling complete cargo before loading instead of loading shipments as received at port. This tended to congest the railway facilities at the port and to hold loads on railroad wagons thus removing them from service. Also, the comparatively small number of each item in each vessel did expose practically negligible quantities of Theater stocks to destruction in the sinking of a vessel. Very few vessels were sunk. The handling of small numbers of each item in each shipment placed a heavy burden on the continental receiving depot. Vessels were not unloaded according to schedule and plan. They were unloaded in accordance with the need of their supplies in the operation. After a period of time reserves were built up on the continent. As these reserves became sufficient to maintain the operation the prescheduled requisitions could have been prepared for requirements for two or more days, the number of days depending upon the status of supply on the continent. As supplies ashore became sufficient for sustaining the operation it was no longer necessary to have vessels loaded in order of daily discharge requirements. The movements and supply systems would have been simplified if shipment of daily requirements had been discontinued as early as practicable.

c. The location of depots in the railroad and highway nets has an influence upon the flexibility and capability of movements. Special requisitions often called for different items of the same class and service than appeared on prescheduled requisitions. Many times the new items were in different depots than the prescheduled items. The movement schedule, which had been set up to handle the shipment, was changed to meet the new shipment and in doing so consumed flexibility of movements. Partial shipments were made from two or more depots and were assembled at the port. A great deal of difficulty was experienced in holding partial shipments at the port awaiting receipt of the complete shipment and when this was not done partial shipments were often

lost. Movement capability was consumed. When depots are located so that shipments can be made up complete in the depot area the movement can be controlled as a unit of transportation, the number of small and expensive shipments is reduced, the handling at the port is simplified, and the probability that the shipment will arrive intact at destination is greatly increased.

d. The bottle-neck in the United Kingdom-Continent movements system developed to be at the continental discharge points. United Kingdom allocation of tonnage to supply services exceeded the on-going discharge capacity of United Kingdom tonnage onto the continent. The offices of Chiefs of Services directed United Kingdom depots to prepare shipments for movement which did not immediately move. The Chief of Transportation, anticipating more shipping capacity than actually developed, ordered movement of shipments to ports that could not be immediately unloaded because empty vessels did not arrive. The loaded vessels awaited in continental waters to be called in for discharge instead of going direct from United Kingdom port to continental berth. This provided supplies in vessels in continental waters from which selected ships could be chosen for unloading. Ships were often unloaded when they contained comparatively small quantity of urgently needed supplies. Vessels were loaded with daily requirements. Some vessels containing priority cargoes awaited an extended period of time to be discharged. The average intransit period for supplies moving from United Kingdom depot to continental depot greatly exceeded that planned. An appreciable portion of theater stocks of some items were in movement. After being committed to movement by the issuance of a normal shipping order, an item was not available for issue or shipment on a priority movement. The item, once committed to movement, was not available as an item until it was stocked in a continental depot. The supplies in movement and backed-up in rear of the bottle-neck of continental discharge points represented a large portion of theater stocks of some items.

e. In the early phases of the operation records were not available of either the status of supplies in continental depots or of supplies consumed. The limited availability of depot units contributed materially to this condition. Continental headquarters did not have complete information of supplies shipped from United Kingdom depots and enroute to continental depots. Therefore it was not possible for continental headquarters to make an adjustment of predetermined requirements that would have resulted in shipment of supplies to provide maintenance and a balanced build-up of reserves. To provide the operational requirements for supplies that differed from predetermined requirements the continental headquarters unloaded boats that contained, among other cargo, the needed supplies or ordered the supplies by special requisitions. The procedure as planned, of forwarding supplies in accordance with predetermined requirements and special requisitions, was the only one that could have been followed until operational consumption indicated that an adjustment should be made in the predetermined requirements. If consumption and status of stocks of supplies on the continent had been known, predetermined requirements could have been adjusted to provide for the normal shipment of supplies from the United Kingdom to have more nearly met the maintenance requirements and balanced the build-up of reserves on the continent.

f. The availability of supplies on the continent was limited due to the rate of build-up of reserves. The supply sources, other than those existing on the continent, were stocks of supplies in United Kingdom depots and in the pipe line from the United States. Those in the pipe line from the United States were made available to

the continent. The response time from ordering supplies from the United States and their delivery prohibited that source from fulfilling complete demands for supplies unless unlimited continental supply discharge and depot handling capacity were available, which they were not. The stocks in depots in the United Kingdom were the only source available to react to and meet sudden operational requirements. The items existed in limited quantities in United Kingdom depots. The element necessary to place them on the continent was movement. Movement capability and flexibility was limited and was expended in movement of prescheduled and special requisitioned materials. The average time of supply in movement exceeded that planned. The additional time in movement of actual over planned consumed all movement capability and flexibility. If the actual average time in movement could have been reduced to that planned, and the movement capability and flexibility used to provide a reserve for emergencies as planned, it is possible that supply requirements might have been filled better by sending some items from United Kingdom depot shelves than by selecting a vessel for continental discharge because it contained some items that were required.

SECTION 5

CONTROL OF MOVEMENT

51. Build-Up Control (BUCO).⁵⁰ In order to control the movement of troops from the United Kingdom to the Continent so as best to meet the operational requirements of the Force Commanders it was considered essential that a centralized build-up control organization be established. The build-up control organization, short title BUCO, was responsible to the Commanders-in-Chief of the Allied Army, Naval and Air Expeditionary Forces, and comprised a United States Zone Staff and a British Zone Staff. The United States Zone Staff consisted of representatives of the various US tactical Commanders who were to participate in the operation, and representatives of Forward Echelon, Headquarters, Communications Zone. It was considered important that all forces who would be future users of Build-Up Control should be represented from the start in order that they be familiar with the operation when they became involved. Therefore certain headquarters, not initially operative, such as First United States Army Group and Third United States Army, had representatives with BUCO from the start.

a. The object of BUCO was to exercise detailed control over the build-up of personnel and vehicles by regulating priorities within the limits of the craft and shipping available and in accordance with the requirements of the tactical Commanders. That is, it was primarily designed to reconcile the need for centralized naval control of craft and shipping with the requirement that Armies, in conjunction with their associated Air Forces, should exercise detailed control of their build-up in order best to meet the tactical situation.

52. Movement-Control (MOVCO).⁵¹ In addition to an operational staff regulating priorities for movement overseas, Build-Up Control

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50. For details of the organization and functioning of the build-up control, and lessons learned therefrom, see General Board Study No. 22, "The Control of the Build-Up of Troops in the Cross-Channel Amphibious Operation OVERLORD".
51. See Movement Control, The War Office, 31 March 1944, Subject: Instructions for Control of Movement OVERLORD. First United States Army Report of Operations, pages 30, 228 and 242.

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included a Movement Control Staff, short title MOVCO, which controlled the executive machinery for movement. For the United States forces, Movement Control was headed by the Chief of the Transportation Corps with sub-agencies in each of the various divisions of the mounting area. Movement Control exercised control over the movement of troop units from their home stations in the United Kingdom to and through the concentration and marshalling area to embarkation points.

53. Turn-Round Control (TURCO).⁶⁰ Turn-Round Control, short title TURCO, was an organization formed to assist the Naval Commanders in controlling the movement of craft and ships so as to achieve the optimum rate of turn-round of these vessels between the far shore and their loading points. TURCO worked in close coordination with BUCO and MOVCO in order to make the most economical use possible of the shipping available for the build-up.

54. Little BUCO. An organization known as Little BUCO was attached to Headquarters, First United States Army, on the far shore for the purpose of assisting the Army Commander in coordinating and effecting necessary changes in the priority of troop movements. In addition to personnel of First Army Headquarters, Little Build-Up Control had representatives of the Assistant Chiefs of Staff G-3 and G-4 of First Army Group Headquarters, of the Communications Zone, and of the Ninth Air Force. Requests for changes in priority of a troop unit appearing in a published priority table were submitted to them. These requests were coordinated and consolidated and passed on the Build-Up Control in the form of instructions to effect the required changes. In effect, Little BUCO was a forward echelon of BUCO, which itself remained in England.

55. Embarcation-Control (EMBARCO). Embarkation-Control was an SOS organization set up at Southern Base Section Headquarters as an instrument for the control and execution of the concentration plan. The function of Embarkation-Control was to maintain a record of the location and capacity of concentration area camps in the Southern Base Section and their status of occupancy. It was also to maintain a record showing the camp location of any unit in a concentration area camp. Reports were required by Embarkation-Control when units arrived in concentration area camps and when they departed therefrom. It was responsible for the movement of units from a concentration area camp of one district to a marshalling area camp in another district, where required. This organization notified units whether or not they were in satisfactory concentration area camps. If the camp was satisfactory the unit was informed that it was in its proper concentration area camp and the date it would be ready to move to a marshalling area camp. This information was forwarded by Embarkation-Control to BUCO. If the concentration area camp was unsatisfactory Embarkation-Control moved the unit to a proper camp. Force movement tables issued daily by Movement-Control were to be in the hands of Embarkation-Control two (2) days before the units were to arrive in the marshalling area. Where Red Ball movements of troops were necessary, BUCO notified Embarkation-Control by telephone. Embarkation-Control confirmed the location of the troop unit, its embarkation point, its far shore destination and the time the Red Ball unit must be in the marshalling area. It then teleprinted the information to the Regional Transportation Officer, to District, Sector, and marshalling area headquarters and to ports. An information copy was sent to BUCO.

56. Operations. The assault and follow-up forces were assembled in or adjacent to marshalling areas prior to D-day and were loaded on pre-allocated craft and ships, as were certain pre-loaded build-up units. The normal build-up, however, were dependent on returning

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landing ships and landing craft. It was not possible to concentrate all the build-up troops in concentration areas prior to the beginning of the operation and they were consequently assembled in areas north of the concentration areas. Therefore there had to be a progressive flow of units into the concentration areas as accommodations were made available by the outward movement of preceding units. The order of movement was predicated on priority lists prepared in advance by the Force Commanders. The last for the period D-day to D + 14 was prepared by the First United States Army; the list for D + 15 to approximately D + 90 was prepared by First United States Army Group. These lists specified the order in which it was expected that units would be moved overseas and the embarkation sectors from which they were to be embarked. It was known in advance, however, that these lists would be subject to change by reason of operational requirements, and provision was made to effect such changes. Two methods were provided in which commanders on the far shore could alter their lists; namely, by amending the list or, in cases of emergency, demanding a specific unit as soon as possible or that it be landed on a certain date. Priorities had to be regulated within the limits of ships and craft available and any alterations in priorities were passed to Build-Up Control. For the movement of units, BUCO issued periodically, through MOVCO, force loading forecasts. These were issued for each embarkation sector and indicated the over-all allocation of craft and shipping of units, the approximate time of arrival of units in marshalling areas and the loading times at embarkation points. Copies of the forecasts were issued to Base Sections, marshalling areas and sectors each third day covering the next ten (10) days' expected movement. These forecasts of movement were subject to change because of operational requirements and alterations in the availability of shipping and craft; nevertheless, they give Base Section and Sector Headquarters an idea of what movements might be expected and enabled preliminary work to be done by Base Sections in the preparation of movement tables and in the stowage of craft and shipping by Sectors. These forecasts were not orders for movement. BUCO made such adjustments as necessary in planned allocation of ships and craft available and instructed Turn-Round Control to bring the prescribed number into designated embarkation points at the proper time for loading.

57. Movement-Control issued daily a Force Movement Table to Base Sections, marshalling areas and Sectors covering a twenty-four hours' flow of movement through the marshalling areas. These tables were actual instructions to Base Section for units to move from concentration to marshalling areas. Based on these tables, Base Section issued road and rail movement tables for movement of units from concentration to marshalling areas. The force movement table gave the allotment of shipping and the priority of units to be embarked, and was the basis for detailed allocation to individual craft and ships by Sector Headquarters. On receipt of each force movement table, Sector Headquarters made the detailed allocation of personnel and vehicles to ships and craft (in conference with TURCO) for each twelve hours' flow of movement through the embarkation points.

CHAPTER 3

CONCLUSIONS AND RECOMMENDATIONS

SECTION 6

CONCLUSIONS

58. The mission of planning, preparing for, and conducting the mounting the Operation OVERLORD was accomplished.

59. The procedure for mounting of units was developed after study of exercises conducted for that purpose and was basically sound. The execution of the plan, however, was faulty in some respects for the following reasons:

a. Lack of sufficient Service of Supply units assembled and trained sufficiently early in the mounting procedure as planned.

b. The use of Task Force units for housekeeping responsibilities and the consequent shifting and removal of these units and their replacement by inexperienced personnel.

c. The failure of force commanders to maintain sufficient liaison on the continent for detailed information as to readiness of units for embarkation and the consequent calling forward of units before they were properly equipped and completely organized for the performance of their mission.

d. The failure of higher authority to enforce strict obedience by unit commanders to the regulations published.

60. Evacuation as planned and executed was sound.

61. The predetermination of daily supply requirements for Operation OVERLORD were worked out in detail for the period D-day to D plus 90.

a. The predetermination of supply requirements on a daily basis for the initial period was essential. The shipment of supplies in accordance with the established schedule during the initial period supported the operation.

b. The predetermination of supply requirements for this period was sound.

c. The predetermination of supply requirements on a daily basis, after some reserve stocks were placed on the continent, was not essential. The supplies were not discharged from vessels onto the continent to meet daily requirements or the schedule of unloading as established. The preparation and handling of shipments as required by daily proscheduled requisitions consumed excessive effort in United Kingdom and continental depots, in the United Kingdom to port movements, and in port operation. The elimination of daily requisitions and substitution therefor of requisitions for supplies for more than one day, as early as practicable in the operation would have made it possible for delivery of supplies to approach more nearly the stated requirements.

62. The operation did not proceed in exact accordance with plans and supply requirements differed accordingly. The requirements were

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met by selection of vessels for discharge of cargo which contained the needed supplies and by placing special requisitions for shipment of additional supplies.

a. The prescheduled requirements were not changed to meet the conditions of operation and shipments from the United Kingdom were made in accordance with prescheduled and special requisitions.

b. The stock status on the continent and actual consumption of supplies was not sufficiently of record to furnish a basis for adjustment of prescheduled requirements.

c. The adjustment of prescheduled requisitions to meet actual requirements would have provided supplies on normal shipments that more nearly would have met the operational requirements. Special requisitions could then have been reduced with attendant reduction in disturbance to the supply system or they could have provided additional supply.

63. The supplies that were available for discharge at continental points were aboard United States and United Kingdom loaded vessels. A number of vessels were kept in continental waters to await discharge. The continental headquarters selected the vessels for discharge in the order in which their cargoes contained the supplies required to most nearly meet operational requirements and build-up of reserve stocks.

64. The bottle-neck in the movement of supply to the continent developed to be at the continental cargo discharge points. The discharge of United Kingdom loaded tonnage through these points was less than anticipated. The allocation of tonnage to supply services in the United Kingdom for shipment from the United Kingdom was greater than United Kingdom tonnage discharged at continental points.

a. Supply Services issued shipping instructions to United Kingdom depots for shipment of supplies to fill allocated tonnages.

b. United Kingdom depots committed items to shipment. Some items withheld from all shipments were not removed from availability in depot stocks for a considerable period prior to movement from the depot, thus confusing availability records.

c. United Kingdom ports could not onload onto vessels the allocated tonnages because vessels did not return in sufficient numbers to handle them. Ports cutloaded supplies as quickly as vessels were available.

d. United Kingdom loaded vessels remained loaded in continental waters, often for an extended period of time, awaiting discharge.

e. The actual average time of supply in movement exceeded that planned. A large portion of some items of theater stocks were in movement.

f. The reduction to the minimum of time of supply in movement would have made the maximum number of items available in depot stocks for issue. This would not have provided United Kingdom loaded vessels in continental waters for selection of cargo for discharge.

65. The limitation of railroad and port facilities in the United Kingdom controlled the maximum rate at which supplies could be mounted from the United Kingdom. This rate was sufficient to support the

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initial operation. Shipments were made direct from the United States to the continent during the period following the initial phase to supplement the shipments from the United Kingdom. There were certain factors which affected the movement of supplies from the United Kingdom depots to the continent:

a. The physical location of depots containing a class of supply of a service was such that partial shipments were made from two or more depots with the expectancy that the shipment would be assembled at the port. The partial shipments did not arrive at the port simultaneously, so, if they were assembled, a partial shipment was held awaiting the arrival of the remainder. The port could better conduct their operation by receipt of completed shipments.

b. The holding of loaded railroad cars at any point, as occurred at the ports, took the cars from service so that they were not available as empty reserves.

SECTION 7

RECOMMENDATIONS

66. The following recommendations are submitted for consideration in the event of a future similar operation:

a. That prior to the mounting of any amphibious operation, sufficient personnel be assembled and trained well in advance, either in the United States or in the mounting area, to perform properly the tasks required of them and that combat forces which are subject to be required for combat be placed on this duty.

b. That an organization be established, to represent the Field Force Commander, whose duty it is to be completely cognizant of the condition of units as to state of readiness for embarkation and to call forward units when and only when they are prepared.

c. That unit commanders be fully apprized of the necessity for complying strictly with shipping instructions and that enforcement not be left to officers of junior grades.

67. That predetermined supply requirements be developed in complete detail for the period deemed necessary for the planned operation; that requirements be predetermined on a daily basis for the initial part of the operation, and that as soon as practicable the basis be extended to more than one day; that supply records of these stocks of supplies available to the invading force be maintained and, with anticipated consumption, be used as a basis for making adjustments in predetermined requirements during the course of the operation.

68. That the supply system provide for the normal movement of the predetermined requirements and for accelerated movement of such additional supplies as may be necessary during the course of the operation.

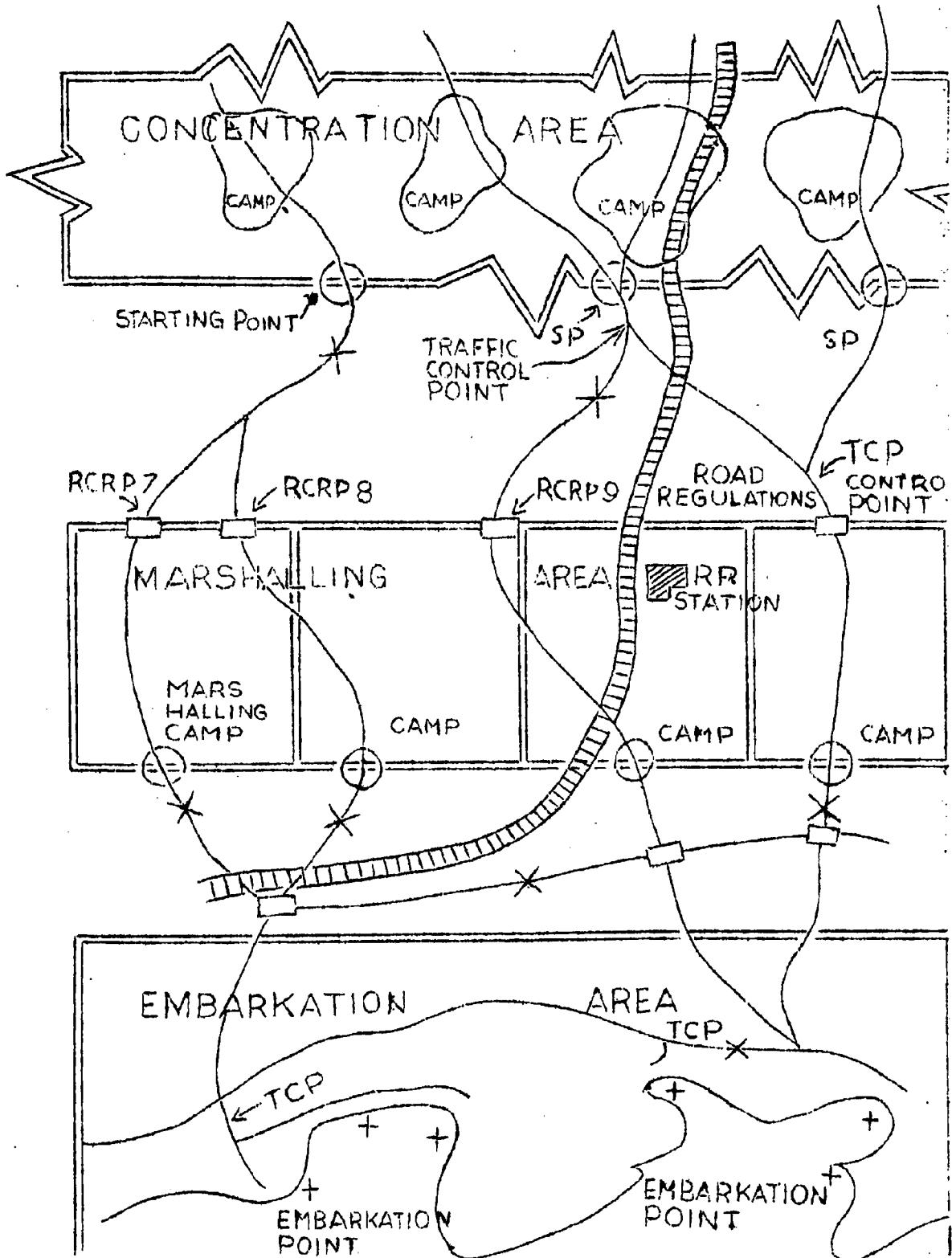
69. That each part of the supply procedure, in which movements is involved, be evaluated and a proper balance be struck between movements and other factors to obtain the maximum and results, that is, special methods of handling and stowing shipments that consume movement ability should be reduced to the minimum consistent with the requirements of the operation; the physical location of depots and the relative position of depots to each other in the railroad and high-

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way ntes should be determined to provide the maximum movement capacity and flexibility consistent with availability of facilities for depots; and the holding of loads on railroad cars and vessels should be reduced to the minimum consistent with the requirements of supporting the operation.

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"The 'ounting -- was a series of movements or phases"

INSTRUCTIONS FOR THE CONTROL OF CROSS CHANNEL PERSONNEL MOVEMENT

A	B	C	D	E	F	G	
FORM OR INSTRUCTION	PURPOSE	PREPARED OR DECIDED BY	BASED ON	DETAILS OF ISSUE	INFORMATION COPIES TO	REMARKS	
L.PRIOR TO MOVEMENT FROM HOME STATION	<p>1. Military Formulas of Landing Instructions (Build-up, assault and follow-up).</p> <p>2. Naval Formulas or Landing in plain d.</p> <p>3. Landing Debris (for assault and follow-up).</p> <p>4. Landing Plan (for assault and follow-up).</p> <p>5. Concentration.</p>	<p>Same purpose for landing of ships.</p> <p>Same ships available for assault, following and early build-up.</p> <p>Same instructions of Port Master for units in marshalling area.</p> <p>Instructions number 1 to 4 above are to be located with vehicles.</p> <p>Instructions formula in plain d. concerning assault, also detailing where units will land, may be issued by Sector TC in case of arrival in concentration area.</p>	<p>Port Commander</p> <p>Port</p> <p>Port Commander</p> <p>Code of each RUE in the region</p> <p>Mr. ETUCA, Base Section and Force Representatives</p>	<p>Operational requirements</p> <p>Availability of ships</p> <p>Same Formulas of landing and operational requirements</p> <p>Assigned units and priority lists</p> <p>Military Forces & of Landing Authorities</p>	<p>To Port Commander</p> <p>To three Sector TCs.</p> <p>To Sector TCs.</p> <p>To 21 Groups of craft or craft units and to Sector TC Sector TC No. 1.</p> <p>To OIC, Base Sections, Mr. ETUCA, RUEC</p>	<p>ETUCA, Base Section, Mr. ETUCA, RUEC</p> <p>ETUCA</p> <p>ETUCA, RUEC, ETUCA, Units concerned</p> <p>Port Commanders</p>	<p>Initially, to 1st Sector TC for movement of landing ships, RUEC, Mr. ETUCA, Sector TCs, Port & Landing Authorities.</p> <p>RUEC issues to Sector TC for movement of landing ships, RUEC and Mr. ETUCA. May include detailed instructions to all units in area.</p> <p>Sector TC attaches to landing ships and its distributed to Sector TCs X to Sector TC to RUEC command post (RUEC). (Provisional landing authorities, RUEC & Landing Authorities)</p> <p>Prepared by the Sector TCs (or Commanders) of units in area. If Sector TCs, RUEC, OICs, Chief of Transportation, etc.</p>
2.MOVEMENTS FROM HOME STATIONS TO CONCENTRATION AREA	<p>1. Departure Instructions</p>	Under movement from Home Station to Concentration Area.	OIC, Base Section	RUEC Form 2, Sec. 9, 10, Formulated by units when alerted.	To units in concentration area RUEC or Base Section.	Instruction of higher authority No.	Prepared by home Section 1, 2, 3, 4 or 5 in Home Section.
3.MOVEMENT FROM CONCENTRATION AREA TO MARSHALLING AREA	<p>7. Force Landing Formulas.</p> <p>8. Force Movement Table (for build-up)</p> <p>9. Road and Rail Movement Tables (for build-up)</p> <p>10. Unit Sheet</p>	<p>Instructions result situation of assigning to units time to arrive at Concentration area, and landing time.</p> <p>Assignment of landing and priority of units to be assigned.</p> <p>Orders move from Concentration area to Marshalling area.</p> <p>Instructions for marshalling into unit parties.</p>	<p>Initiated by RUEC</p> <p>RUEC</p> <p>Base Section TC</p> <p>Initiated by Sector TC - Completed at Marsh. Area TC by insertion of assignments of units to be assigned.</p>	<p>Availability of craft and force craft priority lists.</p> <p>Force Landing Formulas with latest amendments.</p> <p>Force Landing Formulas and Force Movement Tables.</p> <p>Letting Debris (for assault and follow-up); Staff Debris (for build-up)</p>	<p>To Base Section TC, OIC</p> <p>To Base Section TC, OIC</p> <p>To units in concentration area by Base Section TC.</p> <p>Three Marshalling Area TC or Units.</p>	<p>Marshalling Area TC, Sector TC</p> <p>Marshalling Area TC, Sector TC</p> <p>Marshalling Area TC</p> <p>Regional TC and District TC.</p>	<p>Issued every third day - covering next 10 days expected movement.</p> <p>Issued daily, covering 24 hours (by Marshalling area).</p> <p>Prepared after consultation with Army and Force Commanders for build-up.</p>
4.MOVEMENT FROM MARSHALLING AREA TO EMBARKATION AREA	<p>11. Ship Sheet.</p> <p>12. Craft Notice (for build-up)</p> <p>13. Landing Tables</p>	<p>Allotment of unit parties to ship or craft and time at which load is to be at embarkation area RUEC.</p> <p>Contains detailed information about units-aircraft, vehicles, G/R equipment, etc.</p> <p>Indicated time and place for loading each craft and ship load.</p>	<p>Initiated by Sector TC - Completed by Marsh. Area TC by insertion of assignments of units to be assigned.</p> <p>OIC</p> <p>Sector TC.</p>	<p>Landing Tables (for assault and follow-up); Staff Tables (for build-up)</p> <p>RUEC Form 4, Sec. 9, 10 submitted by units.</p> <p>Craft Sheets</p>	<p>Through Marsh. Area TC to 21 Groups of craft or craft loads to Marshalling Area TC No. 1.</p> <p>Base Section TC, Leader TC Mar.</p>	<p>Three copies to Naval Commander of ship, or craft, RUEC</p> <p>RUEC</p>	<p>Sector TC who will deliver three copies to RUEC, who will make 1st, 2nd and 3rd copy and deliver the three copies to the Naval Commander of ship or craft.</p> <p>Marine - Commanding Officer or Captain from aspect of trim or safety of vessel.</p>
5.LOADING ON SHIP	<p>14. Adjustment to Beverage Plans for assault and follow-up.</p> <p>15. Adjustment to landing plans for build-up.</p> <p>16. Storage and order for loading</p> <p>17. Authority to embark.</p> <p>18. Driving vehicles onto craft or ship.</p> <p>19. Securing vehicles on board.</p>	<p>When required by Navy Commander of ship.</p> <p>Then required by Navy Commander of ship.</p> <p>For assault and follow-up-----</p> <p>For Build-up-----</p> <p>Indicates Navy is ready to begin loading.</p> <p>Unit vehicle Party</p>	<p>TO</p> <p>TO refers to CO of troops</p> <p>-----CO Troops for tactical assault.</p> <p>-----RUEC & CO Troops</p> <p>Navy Marshaller through RUEC.</p> <p>CO Troops of craft or shipload units directed by RUEC and Naval Marshaller.</p>	<p>Operational Requirements</p> <p>Operational Requirements</p> <p>Landing Tables Operational Requirements</p> <p>Operational Considerations</p> <p>Ship plan on assault and follow-up. In ship board order (build-up)</p>	<p>Verbal</p> <p>Verbal</p> <p>Verbal</p> <p>Verbal</p>		<p>Airports when craft or MT ships are loaded, vehicles must be transported by RUEC as required by CO, Port Commander (or suitable for storage, OIC = Head Transport Officer.)</p> <p>Supervised by crew of ship or craft.</p>
6.(EMERGENCY) MOVEMENT FROM SHIP OR CRAFT INLAND	<p>20. Authority to embark.</p> <p>21. Routing to Embarkation Area.</p> <p>22. Allocation to swap in Marshalling area.</p> <p>23. Authority to move to Embarkation area (items 11 thru 19 repeated)</p>	<p>To clear port in case of delay in sailing.</p> <p>To clear embarkation area.</p> <p>To hold units until called forward.</p> <p>Desire Embarkation or swap cr. if nearest Embarkation area.</p>	<p>RUEC in consultation with harbormaster</p> <p>Harbormaster Area TC RUEC in consultation with Sector TC OIC.</p> <p>Marshalling Area TC.</p> <p>As indicated in items 11 thru 19 above.</p>	<p>Operational Requirements</p> <p>Availability of routes</p> <p>Unit Sheet as used in item 10</p> <p>Revised Ship Sheet as issued by Sector TC</p>	<p>To CO Craft or Ship (verbal)</p> <p>CO Troops (verbal)</p> <p>CO Troops (verbal)</p> <p>CO Troops thru Marshalling Area TC.</p>		<p>In case of emergency, delaying sailing of craft or ship or damage in Embarkation area, and of necessity as flexible as required to meet conditions.</p>
RETURN TO MOVEMENT	<p>24. Authority to debark.</p> <p>25. Authority to extract for Reception Camps.</p> <p>26. Movement Instructions.</p> <p>27. Debarcation</p>	<p>To clear inland.</p> <p>To clear inland.</p> <p>To move to permanent R.E. Camp.</p> <p>To clear inland to transit hospitals.</p>	<p>Embarkation Area TC in consultation with Provost Marshal Rep.</p> <p>Rep. Transp. Officer thru Dist. Transp. Office.</p> <p>OIC, ETUCA</p>	<p>Port Conditions</p> <p>Availability of crafts and Number of P.M.s</p>	<p>To PT sector (verbal)</p> <p>TO PT sector.</p>	<p>District P.T.O.</p> <p>Dist. RUEC and Rep. Transp. Off.</p>	<p>Boats will be already apportioned. Capacity of approx. 500 per trip.</p> <p>Based on information provided by Provost Marshal and RUEC.</p>
Appendix 2	<p>P.O.W.</p> <p>CASUALTIES</p> <p>OTHERS</p>	<p>To clear inland.</p> <p>To clear inland.</p> <p>To clear inland.</p>	<p>Embarkation Area TC</p>	<p>Operational Requirements</p>	<p>Verbal to escort.</p>		<p>May consist of RUEC civilians, refugees, etc. For long journey by RUEC CO will issue instructions.</p>